considerably. Materials high in carbon relative to nitrogen such as straw or sawdust will decompose very slowly unless nitrogen fertilizer is added. Tree leaves are higher in nitrogen than straw or sawdust but decomposition of leaves would still benefit from an addition of nitrogen fertilizer or components high in nitrogen. Grass clippings are generally high in nitrogen and when mixed properly with leaves will enhance decomposition. Poultry litter, manure or blood meal can be used as organic sources of nitrogen. Otherwise, a fertilizer with a high nitrogen analysis (10-30%) should be used. Other nutrients such as phosphorus and potassium are usually present in adequate amounts for decomposition.

During the initial states of decomposition organic acids are produced, decreasing the pH. In the past, small amounts of lime have been suggested for maintaining and enhancing microbial activity at this time. However, high rates of lime will convert ammonium nitrogen to ammonia gas which will lead to the loss of nitrogen from the pile. Research indicated that lime additions may hasten decomposition; however, the loss of nitrogen from the pile often offsets the benefits of lime. In general, lime is not necessary for degradation of most yard wastes. The pH of finished compost is usually alkaline (pH= 7.1-7.5) without the addition of lime. If large quantities of pine needles, pine bark, or vegetable and fruit wastes are composted, additional lime may be necessary.

Many organic materials are suitable for composting. Yard wastes, such as leaves, grass clippings, straw, and non woody plant trimmings can be composted. Leaves are the dominant organic waste in most backyard compost piles. Grass clippings can be composted; however, with proper lawn management, clippings do not need to be removed from the lawn (see North Carolina Extension Bulletin *Carolina Lawns,* AG-69). If clippings are used, it is advisable to mix them with other yard wastes, otherwise the grass clippings may compact and restrict airflow. Branches and twigs greater than 1/4 inch in diameter should be put through a shredder/chipper. Kitchen wastes such as vegetable scraps, coffee grounds, and eggshells may also be added.

Sawdust may be added in moderate amounts if additional nitrogen is applied. Approximately 1 lb. of actual nitrogen (6 cups of ammonium nitrate) is required for 100 lbs. of dry sawdust. Wood ashes act as a lime source and if used should only be added in small amounts (no more than 1 cup per bushel or 10 pounds per ton of compost). Ordinary black and white newspaper can be composted; however, the nitrogen content is low and will consequently slow down the rate of decomposition. If paper is composted, it should not be more than 10% of the total weight of the material in the compost pile.

Examples of other organic materials that can be used to add nutrients to the pile include: blood meal, bone meal, livestock manure, non-woody clippings, vegetable and flower garden refuse, hay, straw and lake plants. Livestock manure and poultry litter are nitrogen sources for composting. Approximately 100 pounds of poultry litter will provide 1.8 pounds of nitrogen.

Some materials may pose a health hazard or create a nuisance and therefore should not be used to make compost. Adding human or pet feces cannot be recommended because they may transmit diseases. Meat, bones, grease, whole eggs, and dairy products should not be added because they can attract rodents to the site. Most plant disease organisms and weed seeds are destroyed during the composting process when temperatures in the center of the pile reach 150-160^{0}F.

Although plants that have been treated with herbicides or pesticides should be avoided for composting, small amounts of herbicide-treated plants (e.g., grass clippings) may be mixed in the pile as long as one is careful to allow thorough decomposition. Ideally, clippings from lawns recently treated with herbicides should be left on the lawn to decompose.

Use of plastic garbage bags is perhaps the simplest way to make compost. The bags are easy to handle, and require minimal maintenance. To make compost using this method, 30-40 gallon plastic bags should be alternatively filled with plant wastes, fertilizer and lime. About one tablespoon of a garden fertilizer with a high nitrogen content should be used per bag. Lime (one cup per bag) helps counteract the extra acidity caused by anaerobic composting. After filling, add about a quart of water. Close tightly. Set aside for six months to a year. Bags can be set in a basement or heated garage for better decomposition during winter months. Using garbage bags requires no turning or additional water after closing. The main advantage of composting in garbage bags is that it requires little maintenance; however, because oxygen is limited, the process is slow.

The barrel or drum composter generates compost is a relatively short period of time and provides an easy mechanism for turning **(Figure 1)**. This method requires a barrel of at least 55 gallons with a secure lid. Be sure that the barrel was not used to store toxic chemicals. Drill 6-9